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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,241	07/31/2001	David G. Miller	10003791-1	2808

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 08/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,241

Applicant(s)

MILLER, DAVID G.

Examiner

John E Chapman

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-10 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 6-10 is/are allowed.
- 6) ☒ Claim(s) 27-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114 was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 8, 2003 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 27, the expression "wherein each said transducer element is located over one of a respective one of said plurality of posts and a respective one of said plurality of cavities" is ambiguous, as it can mean either that each transducer element is located over both a post and a cavity, or that each transducer element is located over either a post or a cavity. To the extent that applicant intends to use a Markush expression, a Markush formulation is of the form "selected from the group consisting of A, B and C," where A, B and C belong to a recognized physical or chemical class or to an art-recognized class. See MPEP 2173.05(h). In the present situation, applicant does not use the expression "selected from the group consisting of..." Furthermore,

posts and cavities do not belong to a recognized physical or chemical class or to an art-recognized class. It is suggested that "and" in the expression be changed to --or--.

Likewise, it is suggested that the expression "one of a vacuum and a gas" be changed to --a vacuum or a gas--.

4. Claims 27, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al.

Smith et al. discloses an ultrasonic transducer comprising a plurality of piezoelectric elements 560A, 560B mounted on a ceramic base 520 comprising a plurality of posts. Smith et al. also teaches fabricating transmit/receive integrated circuits on a silicon wafer (see col. 19, lines 55-57). Accordingly, it would have been obvious to mount the plurality of piezoelectric elements 560A, 560B on a silicon wafer 520 in order to fabricate a transmit/receive integrated circuit. Regarding gas filled cavities, Smith et al. teaches filling the gap between the transducers with air (col. 11, lines 41-45).

Regarding claim 30, the acoustic impedance of the wafer is necessarily affected by the presence of cavities, since the acoustic impedance is a function of the structure of the wafer.

5. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafy in view of Smith et al.

Hanafy discloses an ultrasonic transducer comprising a plurality of piezoelectric elements X1-X5 mounted on a base 5 comprising a plurality of posts. The only difference between the

claimed invention and the prior art consists in using a silicon wafer for the base 5. Smith et al. teaches fabricating transmit/receive integrated circuits on a silicon wafer (see col. 19, lines 55-57). Accordingly, it would have been obvious to mount the plurality of piezoelectric elements X1-X5 of Hanafy on a silicon wafer 5 in order to fabricate transmit/receive integrated circuits. Regarding gas filled cavities, Smith et al. teaches filling the gap between the transducers with air (col. 11, lines 41-45).


Regarding claim 29, the function of the base 5 is to provide an acoustic impedance match.

Regarding claim 30, the acoustic impedance of the wafer is necessarily affected by the presence of cavities, since the acoustic impedance is a function of the structure of the wafer.

6. Claims 1-3 and 6-10 are allowed.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Chapman whose telephone number is (703) 305-4920.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.


JOHN E. CHARMAN
PRIMARY EXAMINER